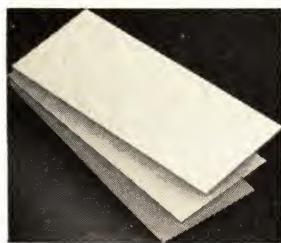
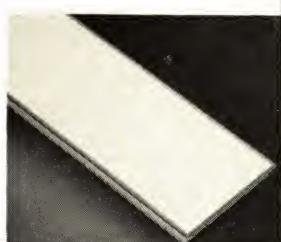


Simpson
QUALITY SINCE 1895

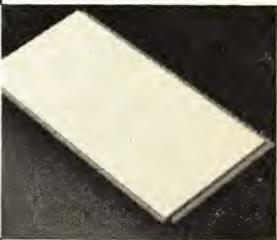
INSULATING BOARD PRODUCTS



INSULATING
BUILDING
BOARD



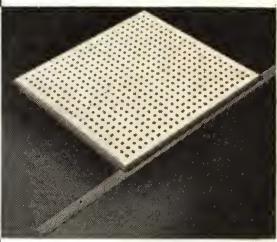
INSULATING
DECORATIVE
TILEBOARD



INSULATING
DECORATIVE
PLANK



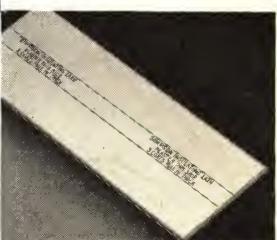
NOISEMASTER®
ACOUSTICAL
TILE



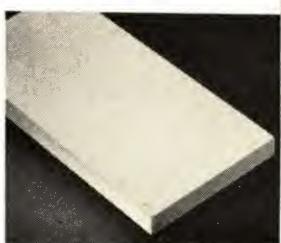
ASPHALT-IMPREGNATED
INSULATING
SHEATHING



INSULATING
LATH



ROOF
INSULATION



Specify and use **Simpson** INSULATING BOARD PRODUCTS

The 3-in-1 Building Materials —
They Insulate as They Build as They Decorate

DESCRIPTION

Simpson Insulating Board Products are rigid or structural wood fiber insulating materials made in many forms without knots or grain and having a wide range of uses. They are a multi-purpose building material because they combine heat and sound insulating properties with structural strength and (in the decorative forms) interior fin-

ish. As a plaster base insulating value is combined with high plaster bonding strength. In their decorative forms, Simpson Insulating Board Products possess distinctive beauty and may be used as a foundation for many kinds of surface decoration.

MANUFACTURE

These products are manufactured from Douglas Fir and Western Hemlock fibers which, when properly blended, processed and fabricated into various forms, possess unique physical properties. The source of the fiber is the 250,000-acre Simpson sustained yield managed timber lands, located in the heart of the rugged Olympic Mountains in the northwest corner of the State of Washington. Having an average rainfall of 60 to 150 inches a year, the area has a prodigious capacity for growing coniferous trees producing an extremely long and tough fiber not duplicated in any other area. Sound forestry management assures Simpson of an ample supply of raw material for Insulating Board Products.

Simpson Insulating Board Products are made in an ultra-modern plant in Shelton, Washington, embodying the latest manufacturing process, developed and perfected after years of research. The process is a relatively simple one, yet it is so exacting as to produce a product of high-

uniformity. The wood is carefully sorted and all bark and rot are removed before chipping. The chips are defibered, or ground, under closely controlled conditions so that the required fiber length is obtained. The "pulp" or defibered wood is then pumped through screens and chests, where the waterproofing and other chemicals are carefully added, until finally it arrives at a traveling wire, where a sheet of wet pulp of definite weight and thickness is formed.

In the subsequent felting process, the fibers are formed into large coherent boards. The final steps are the drying and removal of the water and the cutting and trimming of the board to the finished sizes. During the manufacturing process, the fibers are specially treated by the Biotox® process to render the board resistant to termites, fungus growth, rot, mildew and decay. Simpson Insulating Building Board, Decorative Tileboard and Plank are finished on one surface in an attractive white. Certain products are also additionally fabricated, such as with special joints.

PROTECTED BY THE BIOTOX® PROCESS

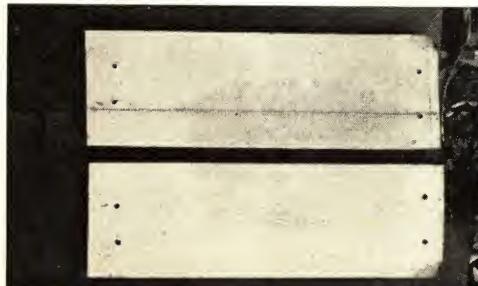
Fibers of Simpson Insulating Board Products are treated by the exclusive Simpson Biotox® process which not only protects against termites, dry rot and decay, but against mold and mildew as well. The Biotox® process was developed as the best and most advanced preservative protection. As used, it is odorless and harmless to humans and animals.

Biotox
PROTECTED BY
Biotox
AGAINST MOLD, DECAY, TERMITES



Left: Samples of untreated Insulating Board after 22 months exposure to termites and unfavorable weather conditions in the State of Louisiana.

Right: Samples of Simpson Insulating Board treated by the Biotox Process, subject to same tests as panels at left. Notice the absence of termite damage, rot and decay.



PHYSICAL PROPERTIES

The physical properties of Simpson Insulating Board Products not only comply with but well exceed in all respects the requirements of Federal Specification LLL-F-321b (with Amendment 1), U.S. Commercial Standard CS42-49 and ASTM Standards dealing with insulating board products.



Thermal Conductivity

The insulating value of a material is measured by its thermal conductivity; the lower the conductivity the better the insulating value. The average conductivity of Simpson Insulating Board Products is 0.33 Btu per hour per

square foot per degree Fahrenheit per inch thickness. There is, however, some slight variation from this value in the case of individual products depending upon the density and other factors.

Tensile and Transverse Strengths

The tensile and transverse strengths of Simpson Insulating Board Products are exceptional, far exceeding federal requirements. For example, the average tensile strength of Simpson Insulating Building Board exceeds the Federal

Specification tensile strength requirement by 47 per cent. Similarly the transverse strength exceeds the requirements of the Federal Specification by 200 per cent, or twice the requirement.

BETTER WORKABILITY ON THE JOB

Simpson Insulating Board Products are easy to work with on the job. They cut easier, smoother and cleaner—saving time on the job, permitting better joints and a high grade of workmanship. You'll get clean edges with a knife and the handy-size panels are easy to saw.



THE SIMPSON INSULATING BOARD PRODUCTS INCLUDE THE FOLLOWING:

- **SIMPSON INSULATING BUILDING BOARD**
- **SIMPSON INSULATING DECORATIVE TILEBOARD**
- **SIMPSON INSULATING DECORATIVE PLANK**
- **NOISEMASTER® ACOUSTICAL TILE**
- **SIMPSON INSULATING SHEATHING**
- **SIMPSON INSULATING LATH**
- **SIMPSON ROOF INSULATION**

SIMPSON INSULATING BOARD PRODUCTS

NAME OF PRODUCT	SIZES	THICKNESSES	EDGES	SURFACE FINISH
Simpson Insulating Building Board Note (1)	4'x6', 4'x7', 4'x8', 4'x9', 4'x10', 4'x12'	1/2" 3/4" and 1" on special order	Square	White Note (2)
Simpson Insulating Decorative Tileboard	12"x12", 12"x24", 16"x16", 16"x32"	1/2"	Beveled with nailing or stapling flange joint	Tapestry White Note (2)
Simpson Insulating Decorative Plank	Widths: 8", 10", 12", 16" Lengths: 8', 10', 12'	1/2"	Short Edges: Square Long Edges: Beveled with nailing flange joint	Tapestry White Note (2)
Noisemaster Acoustical Tile	12"x12" 12"x24" 24"x24"	1/2", 3/8", 3/4", 1" 3/4" 1"	Beveled with Two Opposite Sides Kerfed To Hold Wood Spline	Tapestry White
Simpson Insulating Sheathing	Type A 2'x8' Type B 4'x8', 4'x8 1/2', 4'x9', 4'x10', 4'x12'	1/2" 25/32"	Long Edges: Beveled V-Joint Short Edges: Square	Brown
Simpson Insulating Lath	18"x48", 16"x48"	1/2" 25/32"	Square Edges	
Simpson Roof Insulation	24"x48"	1/2", 1", 1 1/2" 2", 2 1/2", 3"	Short Edges: Square Long Edges: Beveled V-Joint	Natural
Simpson Asphalt-Impregnated Roof Insulation			Square; also available with shiplapped edges on 1", 1 1/2" and 2" thicknesses	Natural
				Brown

Note (1). Available on special order with either long edges or short edges beveled, or both.

Note (2). Reverse side, natural color of board.



SIMPSON INSULATING BUILDING BOARD

Simpson Insulating Building Board is a general purpose product which is produced in four-foot widths and in various lengths. Edges are plain and square. The standard thickness is $\frac{1}{2}$ ". Available on special order, $\frac{3}{4}$ " and 1" thicknesses. One side is finished in an attractive white and the reverse side is the natural color of the board. Also available with both sides unfinished.

Simpson Insulating Building Board provides a beautiful interior finish when applied to walls and ceilings. If desired, the boards may be stained, painted, stenciled or carved with excellent results. This product is easily cut, carved, beveled or grooved with ordinary woodworking tools with sharp cutting edges. Special tools have been developed by the Stanley Company and other tool makers for beveling, grooving and cutting insulating board.

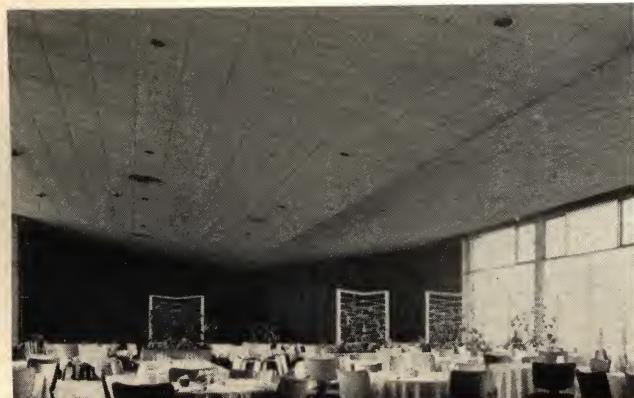
Simpson Insulating Building Board is ideal for constructing partitions of all kinds, either permanent or temporary. Placed over joists under rough flooring, it provides heat insulation and helps reduce passage of sound.

The combined structural and insulating properties of Simpson Insulating Building Board are particularly valuable where farm structures are involved. Consequently there are many farm uses for this product such as poultry and brooder houses, dairy barns, hog houses, fruit and vegetable storages and many other types of structures.



SIMPSON INSULATING DECORATIVE TILEBOARD

Simpson Insulating Decorative Tileboard is used almost exclusively on ceilings, although this product is also used to a limited extent on interior walls above the wainscoting, dado, or chair rail. The Tileboard has interlocking tongue and groove joints so that adjoining units fit together firmly and smoothly. The exposed surface is finished in pleasing Tapestry White; edges of the tiles are beveled.



Simpson Insulating Decorative Tileboard is frequently used on ceilings in combination with a wall treatment of Building Board and/or Simpson Insulating Decorative Plank so that many attractive designs are possible. One of the principal advantages of Simpson Insulating Decorative Tileboard is the stapling or nailing flange for concealed fastening, thus permitting the Tileboard to be applied without the use of special clips.

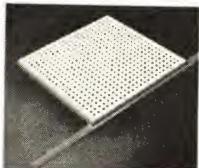




SIMPSON INSULATING DECORATIVE PLANK

Simpson Insulating Decorative Plank is made in long, narrow units which are available in various widths and lengths. The surface to be exposed is finished in Tapestry White. The long edges are beveled and also have a special interlocking tongue and groove joint similar to that of the tileboard so they fit smoothly together for greater rigidity when applied in place.

Simpson Insulating Decorative Plank may be applied either vertically or horizontally to make walls and ceilings of charm and distinction. Varying the width or tinting with various colors permits a wide range of decorative design. The Plank has the same insulating value and strength as other Simpson Insulating Board Products and therefore effectively reduces fuel consumption and increases comfort.



SIMPSON NOISEMASTER® ACOUSTICAL TILE

Simpson Noisemaster Acoustical Tile—with the exclusive SPLINE-LOK System—was developed to meet the need for easy-to-apply, low cost sound conditioning.

Tough wood splines fit into the grooves or kerfs on two opposite edges of each tile. When installation is on furring strips or wood backing these interlocking splines greatly simplify application, seal transverse joints, automatically level the corners, aid in holding straight lines and permit the use of only two nails per tile instead of four. When tile is installed on plaster or cement, the usual adhesive method of application may be used.

Each Noisemaster tile is Hollokore drilled, having 484 clean round perforations per sq. ft. with no loose fibers to encourage paint bridging when repainting. This tile has sound absorption values unexcelled by those of any other drilled fiber acoustical tile in the commonly used thicknesses and types of mountings. The attractive Tapestry White finish provides high light reflection without glare.

NOISEMASTER SOUND ABSORPTION COEFFICIENTS

Thick- ness	Mount- ing*	Coefficients						Noise Red. Coef.**	Unit Size Tested	Lb. per Sq. Ft.
		128	256	512	1024	2048	4096			
1/2"	1	.05	.12	.55	.87	.78	.68	.60	12"x12"	.63
1/2"	2	.04	.38	.69	.84	.75	.69	.65	12"x12"	.63
5/8"	1	.06	.18	.74	.90	.78	.70	.65	12"x12"	.80
5/8"	2	.14	.50	.70	.83	.78	.71	.70	12"x12"	.80
3/4"	1	.10	.25	.79	.92	.76	.71	.70	12"x12"	.91
3/4"	2	.19	.47	.71	.90	.75	.64	.70	12"x12"	.91
1"	1	.13	.36	.90	.90	.78	.73	.75	12"x12"	1.20
1"	2	.21	.59	.81	.88	.75	.62	.75	12"x12"	1.20

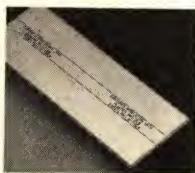
Data based on tests conducted at Riverbank Laboratories, Geneva, Illinois

Perforated 484 holes per sq. ft.; perforations 3/16" in diameter, 1/2" o.c.

*Mountings: No. 1 cemented to plasterboard. Considered equivalent to cementing to plaster or concrete ceiling. No. 2 nailed to 1"x3" wood furring 12" o.c.

**The noise reduction coefficient is the average of the coefficients at frequencies of 256, 512, 1024 and 2048 cycles, given to the nearest 5%.





SIMPSON INSULATING SHEATHING

Simpson Asphalt-Impregnated (A-I) Insulating Sheathing, the sizes and thicknesses of which are listed in the table on Page 4, has many advantages over conventional materials used for wall sheathing. These advantages may be summarized as follows:

1. Provides greater bracing strength and rigidity to the wall structure.
2. Efficient insulation in summer and winter.
3. Replaces non-insulating sheathing at little or no extra cost.
4. Permanent; integrally waterproofed with asphalt; treated by the Biotox process for protection against termites, rot, decay and mildew.
5. No knot holes, shrinkage cracks or other imperfections.
6. Light-weight, easy to handle.
7. Goes up about twice as fast as ordinary sheathing.
8. No building paper required; high resistance to wind infiltration.
9. No dimensional waste because of full dimension; less cutting waste.

Strength tests conducted on Simpson Insulating Sheathing at the Universities of Washington and Minnesota indicate that this sheathing provides substantially greater wall strength than lumber. According to the University of Washington tests, the wall strength of the 2'x8'x1 $\frac{1}{2}$ " Simpson Insulating Sheathing was 2.57 times that of 1"x8" wood shiplap. Tests at the University of Minnesota showed that 4'x8' panels of $\frac{2}{3}\frac{5}{8}$ " Simpson Insulating Sheathing provided substantially greater racking strength than horizontal wood sheathing with *corner bracing*. This size Simpson Insulating Sheathing complies with FHA requirements for the elimination of corner bracing.



SIMPSON INSULATING LATH

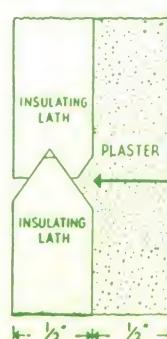
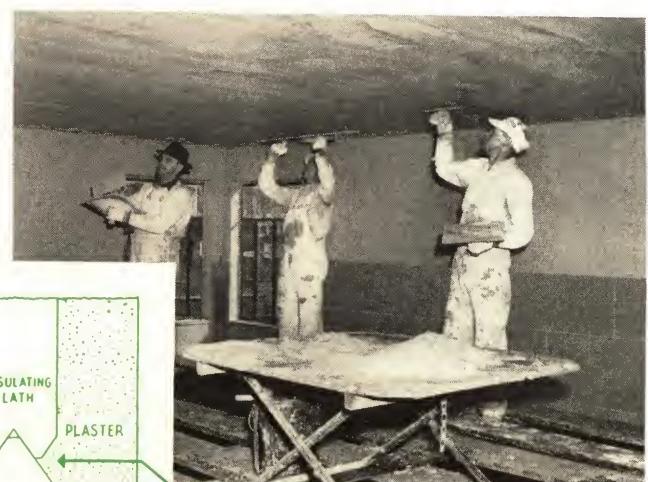
Simpson Insulating Lath is a better plaster base and an efficient insulation in one material. It provides a smooth, beautiful wall free from lath marks.

The units are 16" and 18" wide by 4' long and 1/2" thick.

Simpson Insulating Lath is manufactured with interlocking long edges. The plaster bond between Simpson Insulating Lath and plaster averages about 800 pounds per square foot. As the plaster load of a ceiling amounts to only about five pounds per square foot, there is a factor of safety of about 160. The plaster goes on easier and there is a consequent saving in material and labor.

Simpson Insulating Lath is easily cut and fitted. It can be quickly nailed to studs, joists or furring strips and is then ready to receive the plaster. Where the exterior is solid masonry, Simpson Insulating Lath may be applied to the inside surface over furring strips.

The use of Simpson Insulating Lath on the inside of studs and Simpson Asphalt-Impregnated Insulating Sheathing on the outside provides a well insulated wall of sufficient heat resistance for practically any climate or type of fuel. This construction also provides a valuable breathing space between studs.



Surface texture of Simpson Insulating Lath creates permanent bond between it and the plaster. Note special beveled V-joint which provides strength and reinforces plaster base.



SIMPSON ROOF INSULATION

Simpson Roof Insulation is designed especially for the insulation of roofs under built-up roofing, and is widely used to insulate roofs of new and existing industrial and commercial buildings, schools, auditoriums and other structures. The material is available in two types: (1) plain and (2) asphalt-impregnated. Both are integrally waterproofed during manufacture. The plain roof insulation is suitable for ordinary requirements. The asphalt-impregnated roof insulation has a higher degree of water resistance, and is designed for use where severe moisture conditions are encountered. Asphalt-impregnation does not impair the insulating value.

Owing to its high insulating value Simpson Roof Insulation will usually, in a few years time, pay for itself in fuel savings, and often permits reduction in the size of the heating plant. Its application results in increased comfort and improved working conditions both winter and summer.

Simpson Roof Insulation in proper thicknesses will prevent ceiling condensation or "sweating," which often causes serious damage in industrial buildings.

The standard size of both the plain and the asphalt-impregnated Simpson Roof Insulation is 24"x48", in thicknesses of $\frac{1}{2}$ " and multiples thereof up to 3". Edges are square, but 1", 2" and 3" thicknesses may be obtained on special order with offset or shiplapped edges.



SIMPSON INSULATING ROOF SLAB

(RECOMMENDED FOR USE IN MODERATE TEMPERATURES)

Simpson Insulating Roof Slab is generally applied over exposed beams. It is a lightweight insulating roof sheathing combining three materials in one: (1) Roof deck or sheathing, (2) Insulation, (3) Interior Finish. The easy-to-handle panels consist of multiple layers of Simpson Insulating Board Products laminated together with water-resistant adhesive. A modified tongue-and-groove joint is cut into the long edges. Short edges, which rest on framing, are square. Standard thicknesses are 1½-inch, 2-inch, and 3-inch. The bottom (exposed) side of the material is

available in a pleasing Tapestry White finish, as well as natural finish. The material (except for the bottom layer) is impregnated with asphalt.

This roof slab is designed primarily for residences and may be used on flat, pitched or mono-slope roofs. The material is covered with conventional types of roofing such as built-up roofing mopped in hot asphalt. It is designed for moderate temperatures and is recommended for use only where the average January temperature is 45° Fahrenheit or higher.

VAPOR BARRIERS

The use of adequate vapor barriers in exposed walls, ceilings and roofs, in conjunction with Simpson Insulating Board Products is recommended in cold climates—that is where the average January temperature is below 45° F.

In general, any sheet which has a continuous coating of water-resistant material such as wax or bitumen, the continuity being assured by a glossy surface and sufficient thickness, is likely to have sufficient vapor resistance. Vapor barrier shall be installed as near

the warm side of the construction as possible, such as on the inside face of studs or the under side of ceiling joists. Either the sheet type or paint type may be used. Many oil base paints are good liquid or paint-type vapor barriers, and may be applied to the inside surface of the wall or ceiling as a decorative finish. Usually at least two or three coats of this type of paint are required to provide adequate vapor resistance. Aluminum and asphalt base paints are also good vapor barriers. Water paints are not vapor barriers.

Architect Specification No. 1

APPLICATION OF SIMPSON INSULATING BUILDING BOARD AS INTERIOR FINISH

NOTE: Conditioning Board. Remove board from packages 24 hours before it is applied and stack singly around the room to allow adjustment to atmospheric conditions.

1. Framing. shall be erected as in ordinary frame construction on 12 or 16-inch centers. Headers shall be cut in between framing members at the ends of the insulating board to provide a nailing base. Insulating board shall, where possible, be of sufficient length to span between sills and plates or other structural members. Headers are also recommended in back of chair rails and all other heavy mouldings.

2. Nails. Where nailing is to be exposed, plated or galvanized insulating board nails are recommended. Where nails are to be covered with panel strips or mouldings, use 1½-inch common, box or galvanized nails.

3. Cutting. All cutting shall be done in a workmanlike manner. Where joints are to be covered with battens or mouldings, board may be cut with a sharp fine-tooth saw, using rapid strokes and a minimum of pressure. Where joints are to be exposed and cutting is required, cut with a sharp linoleum knife against a straight edge, or with a Stanley Fiber Board Plane or with a Bevil Devil.*

4. Beveling and Grooving.

4a. Tools. By means of the Stanley Fiber Board Plane and other special tools which have been developed for the purpose, the large boards may be beveled, grooved or hand carved. The Stanley Fiber Board Plane is similar to a carpenter's plane and utilizes tool steel blades. This tool has adjustments for varying width and depth of cuts, and spacing of grooves. A supplementary tool or knife is used for free hand carving where the beveling and grooving tool would be unwieldy.

4b. Designs. The operations possible with these tools include square and beveled edges, V-grooves of various widths, diagonal grooves edge to edge, edge to groove or groove to groove, and inside grooves "faded" by gradually lowering and raising tool.

* The Stanley Fiber Board Plane is manufactured by the Stanley Co., New Britain, Conn. The Bevil Devil (No. 77) is manufactured by the Kimball Manufacturing Co., Royal Oak, Mich.

Overlays and perfect circles can be obtained as well as freehand curves and sweeps; also V-grooves in fluted designs and miter and slip joints.

4c. Relief Carving. Artistic decorative effects may be produced by carving the surface of Simpson Insulating Building Board, particularly in the case of large relief carving where detail is not required. A design is first laid out in pencil, and razor blades or a sharp knife are then used to carve the insulating board.

4d. Where the surface of the boards are to be beveled, grooved or carved, this work shall be done before the boards are applied.

5. Joints. Do not attempt to obtain a finished job by butting edges of board together without some form of joint treatment such as beveled edges or covering joints with mouldings. The edges may be beveled with the Stanley Fiber Board Plane, or a Bevil Devil. Bevel should extend to a depth of one-half the thickness of the board, thus obtaining a beveled-butt joint. If the beveled edge is not desired, the joints may be covered with either wood or metal mouldings.

6. Application of Insulating Board. If joints are to be exposed, bring adjoining insulating boards into moderate contact. BUT DO NOT FORCE INTO PLACE. If joints are to be covered with mouldings or batten strips, leave a 1/16" to 1/8" space between adjoining boards. Nail to intermediate framing members first, spacing nails 6" apart and then along the edges, spacing nails 3" apart and 3/8" from edges.

7. Mouldings. Where joints are to be covered with battens or mouldings, nails for attaching battens or mouldings should be of sufficient length to penetrate at least 1 inch into framing members.

8. Painting and Decorating. Simpson Insulating Building Board may be left in the natural factory applied finish or may be painted, enameled or otherwise decorated. For information on this subject, see Specification No. 2.

Architect Specification No. 2

APPLICATION OF PAINTS AND WALL COVERINGS TO SIMPSON INSULATING BUILDING BOARD

1. Application of Insulating Board. The insulating board shall be applied in accordance with Specification No. 1. Common, box or galvanized nails should be used only where nail heads are to be covered with battens or mouldings.

2. Water Paints. Water paints may be applied directly to the factory-finished surface of Simpson Insulating Building Board. A single coat of good water paint will usually give good coverage on Simpson Insulating Building Board.

3. Stains. Stains may be used where the natural unpainted surface (that is, the reverse side) of the board is to be modified without destroying the texture and where its sound absorbing properties are of importance.

3a. Glue Stains. Glue stains usually give the best results on Simpson Insulating Building Board. A satisfactory glue stain may be made by dissolving ½ pound of flake or ground glue in a gallon of boiling water. After the glue has been thoroughly dissolved, dry color is added in amounts depending on the depth of tone required. The dry colors are best added by mixing them with a small amount of water, stirring to a thin paste which is more easily taken up by the glue solution. Glue stains of this type must be used promptly after preparation. They should, if possible, be applied while they are still warm.

3b. Alcohol Stains. Alcohol stains are not recommended as they dry too rapidly, leaving brush marks.

4. Oil or Varnish Paints. The factory-finished surface of the Simpson Insulating Building Board need not be sized if oil or varnish paints are to be applied thereto. The natural unpainted surface should, however, be properly sized before application of oil or varnish stains.

4a. Size. The size used should be that recommended by the paint manufacturer.

4b. Application of Paint. The best results are obtained if the surface is sanded lightly after the size coat has dried thoroughly. The paint may be applied to the surface thus prepared using the desired number of coats for satisfactory results.

5. Wall Coverings. Write for special instruction dealing with the use of Simpson Insulating Building Board as a base for wall coverings such as linoleum and wallpaper.

6. Stencil Decorations. Where a light touch of color is desired or where a means of accentuating a design is sought, stencils are recommended. Border stencils are particularly attractive on Simpson Insulating Building Board interiors. Stencil designs may be cut in oil paper or metal. They are held in position by hand or by thumb tacks while the color is applied with a stiff stencil brush. Colors ground in japan are recommended. The japan color paint should be thinned to the desired consistency with a mixture of six parts turpentine, three parts linseed oil and one part japan drier.

Architect Specification No. 3

APPLICATION INSTRUCTIONS FOR SIMPSON INSULATING SHEATHING AS WALL SHEATHING

Note: Simpson Asphalt-Impregnated Insulating Sheathing is available in two types. Type A is 2x8 ft. by $\frac{1}{2}$ " and 25/32" thick and has interlocking long edges (V joint). Short edges are square. Type B is produced in sizes of 4x8, 4x8 $\frac{1}{2}$, 4x9, 4x10 and 4x12 feet and the thicknesses are $\frac{1}{2}$ " and 25/32". All edges of Type B are square.

1. Framing. Studs shall be erected as in ordinary frame construction on 12 or 16 inch centers and (for Type B only) two by four headers inserted between framing members at the ends of the sheathing to serve as a nailing base.

2. Nails. Use 1 $\frac{3}{4}$ or 2 inch galvanized roofing nails for 25/32" thick board and 1 $\frac{1}{2}$ " galvanized roofing nails for $\frac{1}{2}$ " board.

3. Application of Sheathing.

3a. Application of Type A Sheathing (2x8 ft.). Apply the 2x8 ft. sheathing at right angles to the framing members, that is, horizontally, leaving a $\frac{1}{8}$ inch space between the ends. The interlocking long edges shall fit snugly with the V-shaped tongues up. Headers are not required at the horizontal (interlocking) joints. Nail to intermediate framing first and then along edges, spacing nails on approximately 4 inch centers and not less than $\frac{3}{8}$ inch from the edge. Drive nails until the heads are flush with the surface of the insulating board. Bring sheathing into close contact with frame around windows.

3b. Application of Type B Sheathing (4 ft. wide). Apply the 4 foot unit lengthwise (vertically) and directly to all framing members with ample bearing for nailing along all edges. Nail to intermediate framing members first, spacing nails 6 inches apart; and then along the edges, spacing nails 3 inches apart and $\frac{3}{8}$ inch in from the edges. Drive nails until the heads are flush with the surface

of the sheathing. Leave a $\frac{1}{8}$ inch space between adjoining boards and at ends of boards.

4. Flashing. Flash windows, doors and other cased openings with strips of metal or roofing.

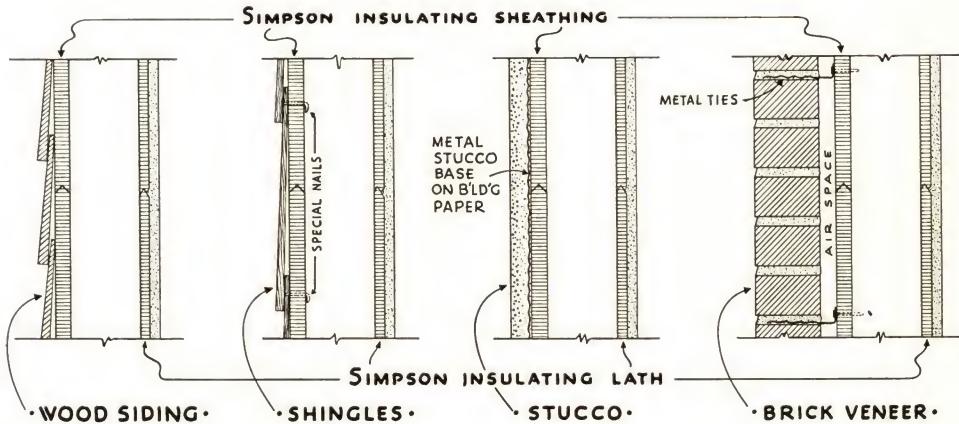
5. Application of Exterior Finish Over Sheathing.

5a. Wood Siding. Wood siding may be applied directly over the insulating board, nailing through to the studs. Siding boards shall butt over studs, nailing through to studs.

5b. Shingles. Special proprietary nails are available for applying rigid shingles to insulating board sheathing. (Note: Ordinary nails will not hold in insulating board sheathing.) If these special nails are not available, nail 1x2 furring strip horizontally over the insulating board to studs, spacing to fit shingles. Nail shingles to furring strips in accordance with manufacturer's specifications.

5c. Brick or Stone Veneer. For brick or stone veneer, properly space anchors and nail through the insulating board into the studs or plates. DO NOT NAIL BETWEEN THE STUDS. Lay brick or stone in the usual manner. Allow not less than $\frac{1}{2}$ inch space between the insulating board and the brick or stone.

5d. Stucco. If stucco is to be used as exterior finish apply an approved metal stucco base, nailing through to studs. No stucco shall be applied to insulating board. Stucco shall be applied in accordance with stucco manufacturer's specifications.



Architect Specification No. 4

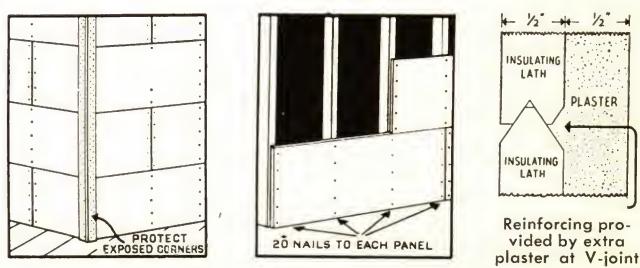
APPLICATION INSTRUCTIONS FOR SIMPSON INSULATING LATH

(See illustrations above and below)

1. Framing or Furring. The studs, joists or rafters shall be erected as in ordinary frame construction on 12 or 16 inch centers. For exterior masonry walls install 1x2 furring strips vertically on 12 or 16 inch centers and shim to a true level plane.

2. Nails. Blued plasterboard nails with 5/16 inch heads are recommended for applying Simpson Insulating Lath. Use 1 $\frac{1}{4}$ inch nails for $\frac{1}{2}$ " lath.

3. Application of Lath. Lath shall be applied with long edges at right angles to the framing or furring strips. Interlocking long





edges shall fit together firmly and smoothly. Center all end joints on framing leaving $1/16$ " to $1/8$ " space between end joints. Stagger the vertical or end joints of each course of lath with the joints of the preceding course. Nail lath securely to framing, using five nails at each stud or nailing member; that is, twenty nails for each lath when framing is on 16 inch centers. Use strips of Simpson Insulating Lath where piecing out is necessary; do not fill out with wood lath or wood strips. To cover arches, curves and sweeps, first nail lath at the end, holding it to the required contour and then nail to each successive stud, joist or furring strip.

4. Reinforcing Corners and Angles. All outside corners shall be reinforced with metal corner beads. Reinforce all re-entrant angles with standard expanded metal lath strips 6 inches wide bent into the angle and secured in place by nailing. All metal lath reinforcing shall be nailed through Simpson Insulating Lath into framing. Use 6 inch strips of expanded metal lath to reinforce all joints between frame and masonry construction.

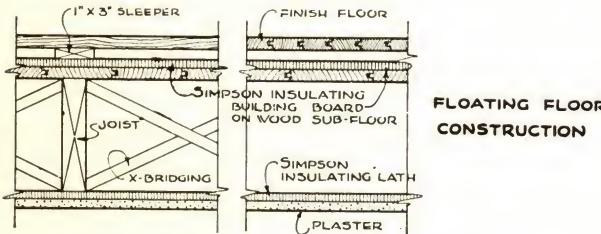
5. Plastering on Simpson Insulating Lath.

Architect Specification No. 5

INSULATING FRAME CONSTRUCTION FLOORS WITH SIMPSON INSULATING BUILDING BOARD

1. The Simplest Method of insulating intermediate frame construction floors with Simpson Insulating Building Board is to apply a layer of the board between the joists and the rough floor. The board should be applied over the joists with edges in moderate contact, nailing sufficiently to hold in place while the sub-floor is being laid. The rough or sub-flooring should be face-nailed into the joists. Nail the finish floor to the sub-floor in the usual manner.

2. Floating Floor Construction. Where a greater degree of sound insulation is desired, the floating floor construction is recommended. This consists of applying a layer of Simpson Insulating Building Board directly upon the rough flooring, followed by 1x3 sleepers on 16-inch centers to receive the finish flooring. The sleepers shall be



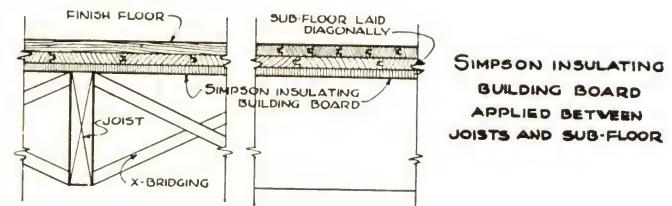
5a. Type and Consistency of Plaster. Standard gypsum cement plaster or gypsum wood fiber plaster containing no lime shall be used for scratch and brown coats. Both coats shall be mixed to a wet consistency to allow for application with light trowel pressure and to facilitate darbying. The plaster, especially for the scratch coat, should have a setting time of not more than 2 or 3 hours. Any standard plaster finish may be used over the brown coat such as gypsum, lime, or lime gauged with gypsum. Lightweight aggregate plasters are not recommended for use with Simpson Insulating Lath.

5b. Application of Plaster. The plaster shall be applied in three coats to full $1/2$ inch thickness. Wherever necessary and particularly on ceilings, provide plaster screeds to insure an even, uniform full $1/2$ inch plaster thickness. Rod and trowel surface to a true plane. All corners and angles shall be plumb and true and darby strokes shall be in the direction of framing members, with the darby spanning two or more studs or joists.

5c. Ventilation and Heat. Provide adequate ventilation for proper drying of the plaster. Proper ventilation is necessary in winter as well as in summer. Adequate heat shall be provided in winter to prevent injury to fresh plaster by frost.

securely nailed through to sub-floor. Write for special folder on this subject entitled Sound Insulation of Floors and Walls.

3. Attic Floors. Apply a layer of Simpson Insulating Building Board directly to attic floor joists, extending to the side walls or eaves to prevent air leakage at this point. If the eaves are not tight, the joist space between the insulating board and the ceiling below should be blocked off at the ends to prevent air leakage into this space. Lay wood floor over the insulating board in portions of the attic to be used for storage or living purposes, nailing through to joists. If the attic is already covered with rough flooring, nail insulating board directly to the existing floor.



Architect Specification No. 6

INSULATING MASONRY CONSTRUCTION FLOORS WITH SIMPSON INSULATING BUILDING BOARD

NOTE: Any smooth, dry concrete or other masonry floor may be insulated with Simpson Insulating Building Board. For this purpose, the most convenient size is 2x4 ft., which may be obtained by cutting from the larger sizes. Simpson Roof Insulation, size 2x4 ft., may also be used for this purpose.

1. Waterproofing or Damp-proofing Course. Damp basement floors or floors subjected to hydrostatic pressures, shall be waterproofed by means of a membrane waterproofing course, consisting of saturated roofing felt embedded in hot asphalt or pitch.

2. Adhesive. The Simpson Insulating Building Board shall be cemented to the masonry floor or to the waterproofing course by embedding in either hot asphalt or cold asphalt mastic. Asphalt emulsions are not recommended for this purpose. Where hot asphalt is used, concrete shall first be primed with an asphalt cutback.

2a. Application with Cold Plastic Cement. Where asphalt is used, trowel mastic directly onto masonry floor to a thickness of $1/16$ to $1/8$ "

inch as required to present a plane surface, and embed insulating board therein.

3. Application of Insulating Board. The Simpson Insulating Building Board shall be spaced approximately $1/16$ inch apart and shall be rolled or "stepped down" to insure intimate contact and proper bond. If a second layer of insulating board is to be applied, this second layer shall be properly cemented to the first layer with a liberal coating of the adhesive used, the joints of the second layer being offset with respect to first layer.

4. Finish Flooring.

4a. Wood Block Flooring (Parquet). This type of flooring shall

be applied in the customary manner as recommended by the flooring manufacturer. While hot asphalt may be used, a mastic is considered preferable. Asphalt emulsion shall not be used.

4b. Wood Flooring (Strip). A layer of insulating board shall be nailed to 2x3 sleepers embedded in the concrete on 48-inch centers. If the sleepers are not laid flush with the surface of the concrete slab, the space between sleepers, and flush with the surface thereof, should be filled with cinder or gravel concrete before application of the insulating board. Install 1x3 furring strips across the sleepers on 12 or 16 inch centers and nail through the insulating board to the sleepers. The finish floor shall then be applied to the sleepers in the usual manner. Where floor load necessitates rough flooring,

apply insulating board in accordance with Specification No. 5, paragraph 1 for Frame Construction Floors.

4c. Masonry Type Finish Floors. Where the finish floor is to be of any masonry type, apply over the insulating board a flood coat of hot asphalt, or 1/16 to 1/8 inch of asphalt mastic or a membrane waterproofing course firmly bonded to the insulating board by means of a continuous mopping of asphalt. Apply granolithic cement or monolithic concrete directly over the surface thus prepared in accordance with flooring manufacturers' specifications. Unit flooring such as ceramic or quarry tile or slate should be applied over the surface thus prepared in a bed of cement in accordance with conventional practice.

Architect Specification No. 7

INSULATING PITCHED ROOFS WITH SIMPSON INSULATING BUILDING BOARD

NOTE: Pitched roofs may be insulated by applying Simpson Insulating Building Board either to the underside of the roof rafters or directly over the roof rafters. If the insulating board is to be applied to underside of rafters, refer to Specification No. 1. If the insulating board is to be applied over the roof rafters, either the Building Board or Sheathing may be used. The paragraphs immediately following refer to the application of the insulating board over or on top of the roof rafters.

1. Nails. Either 1 1/2 inch (4d) common or 1 1/2 inch galvanized roofing nails may be used for applying the insulating board.

2. Application of Insulating Board. If the Building Board or Type B Sheathing is used, the insulating board shall be applied lengthwise and directly to all framing members with ample bearing for nailing along all edges. Nail to intermediate framing members first, spacing nails 6 inches apart and then along all edges, spacing nails 3 inches apart and 3/8 inch from edges. If the Type A (2x8 ft. size) sheathing is used, apply in accordance with paragraph 3a of Specification No. 3.

3. Application of Roofing.

NOTE: Where insulating board is used on pitched roofs it is necessary to apply either wood strips or solid wood sheathing (depending on the type of roofing to be used) over the insulating board to

receive the roofing as directed in the following paragraphs, 3a and 3b.

3a. Shingles, Slate or Other Rigid Roofing. Wood strips (roofer) to which the roofing is to be secured shall be applied directly over the insulating board, driving nails through insulating board and penetrating rafters at least 1 inch. Apply roofing to the wood strips in accordance with roofing manufacturers' specifications.

3b. Asphalt Shingles, Roll Roofing, Metal or other Non-Rigid Roofing. For these and other types of flexible or non-rigid roofing apply wood sheathing over the insulating board in the customary manner, nailing through to the rafters and using nails of sufficient length to penetrate the rafters to a depth of at least 1 inch. Apply roofing to wood sheathing in accordance with roofing manufacturers' specifications.

Architect Specification No. 8

APPLICATION INSTRUCTIONS FOR SIMPSON INSULATING DECORATIVE TILEBOARD AND PLANK

NOTE: Simpson Insulating Decorative Tileboard has a tongue and groove joint with a stapling or nailing flange for concealed fastening. Simpson Insulating Decorative Plank has a similar tongue and groove joint with a nailing or stapling flange for concealed fastening on the long edges. Short edges are square.

1. Layout. Where necessary a detailed layout drawn to scale shall be provided for the Tileboard. In general, ceiling work shall be centered and the layout arranged so as to require a minimum amount of cutting and waste of material. Center lines shall be struck in the customary manner as required by layout.

2. Cutting and Fitting. Cutting shall be done with a sharp knife or a fine-toothed saw. For fitting around outlets, pipes, etc., a keyhole saw may be used.

3. Nails and Adhesive. Simpson Insulating Decorative Tileboard or Plank may be applied either to a continuous wood nailing base or to wood furring strips using nails or staples, or to smooth plaster or concrete using an adhesive.

3a. Nails. Where attachment is to be nails, 3d blued lath nails

(1 1/8" long) shall be used. Do not drive nails through the surface or bevel. If exposed nailing is unavoidable, as for example, when last plank is installed, use 1 1/2" insulating board or fiberboard nails.

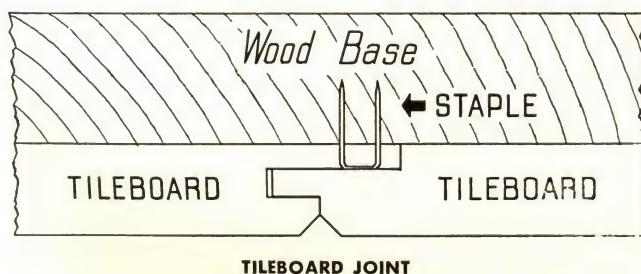
3b. Staples. Where application is to be by means of staples, 9/16" rust-resistant staples shall be used. A spring or gun type stapler shall be used.

3c. Adhesive. Where an adhesive is required, an approved acoustical or insulating board cement shall be used and shall be certified by the adhesive manufacturer to provide a permanently secure bond with concrete or plaster surfaces.

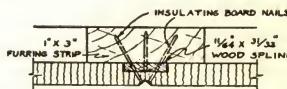
4. Preparation of Base.

4a. Continuous Wood Nailing Base. Cover framing with a wood sub-base of No. 1 common Douglas Fir, Western Hemlock, or equivalent, matched 25/32 inch lumber to form a continuous, level nailing base. Plywood (3/8" or more thick) may be substituted for the lumber if desired.

4b (1) Furring Strips for Tileboard. 1x3 inch furring strips shall be applied to framing members and shall be true and level. Furring



A. CUTTING STARTER TILEBOARD
B. STARTING TILEBOARD AT CENTER OF ROOM



shall be spaced to accommodate tile pattern but not over 16 inches on centers.

4b (2) Framing or Furring for Plank. Framing or furring for plank shall be true and level and may be either at right angles to, or parallel with, the plank. If the plank is parallel with framing or furring, long edges shall bear on framing or furring on centers corresponding to the width of plank used. Where plank is applied at right angles to framing or furring, the framing or furring shall be on 9-inch centers up to a height of 5 feet, and 12 or 16-inch centers above this height. Headers shall be inserted between framing members at the end of plank to serve as a nailing base.

4c. Preparation of Surfaces for Adhesive Application. Surfaces shall be tested level and shall be solid. Any loose plaster shall be removed and the surface replastered. If plaster is generally unsound, tile shall be applied to furring strips.

4c (1) Concrete Surfaces shall be thoroughly dry and shall be washed with a solution consisting of 1 pound zinc sulphate to 1 gallon of water. Surface shall be allowed to dry before applying tile or plank.

4c (2) Plaster Surfaces. On new work, Simpson Insulating Decorative Tileboard or Plank may be applied directly to the brown coat, omitting the white or finish coat. If the plaster surface has been painted, a test sample shall be installed to determine whether or not the adhesive will bond satisfactorily to the paint, allowing at least 48 hours for the test. If the paint becomes soft or the tile becomes loose in this time, the paint shall be removed and the tile applied directly to plaster.

5. Installation of Tileboard.

5a. Conditioning Tileboard. Condition all tileboard by opening packages and allowing to stand 24 hours in room to be treated for adjustment to atmospheric conditions.

5b. Starting of Work. On small areas work may be started in a corner and application proceed in both directions to the opposite sides, conforming in all cases to the requirements of the layout as specified in Paragraph 1. On large areas, work should be started in the center of the room or space, placing the first tile either with edges adjoining center line or with the center of tile on the center line of the ceiling, depending on the requirements of the layout.

5b (1) Where Application Is Started in the center, so that it is necessary to work from the center in both directions toward the walls, a wood spline or starting strip (size 11/64" x 31/32") shall be attached to ceiling and placed in the center and used as a starter strip as shown on page 11. The tongues of the center tile shall be cut off and these units started at the spline. Center units shall be started by nailing at an angle through bevel using 1 1/2" insulating board nails.

Architect Specification No. 9

INSTRUCTIONS FOR SIMPSON ROOF INSULATION OVER FLAT ROOF DECKS UNDER BUILT-UP ROOFING

1. Application, General.

1a. Keeping Insulation Dry. The roof insulation shall be kept dry before, during and after application. Only as much insulation shall be laid over the roof area as can be covered by the finished roofing in any one day. At the end of the day's work, roofing felts shall be turned down over the exposed edges of the insulation and mopped solidly.

1b. Staggered Joints: Adjoining Boards. Roof insulation shall be laid in parallel courses with end joints of each course breaking with those of adjoining courses. Edges of the roof insulation shall be brought to a moderate contact but shall not be forced into place.

1c. Vertical Surfaces. Where the roof meets vertical surfaces, such as parapets, penthouses, etc., the roof insulation shall be cut in a neat, workmanlike manner to insure proper joining without forcing. Cant strips shall be provided at all intersections of roof surfaces and vertical walls, parapets and curbs, and shall be set on top of roof insulation and securely fastened in place.

1d. Two Layer Construction. Where roof insulation is laid in two layers, the boards of the second layer shall be laid parallel with those of the first layer, and the joints of the second layer shall break joints with those of the first layer.

5c. Application of Tileboard by Nailing or Stapling. Drive nails or staples through nailing flange using not less than four nails or staples per tile for square tile (12" x 12" or 16" x 16") and not less than six nails or staples for 16" x 32" tile. Set nail heads even with surface of nailing flange.

5d. Application with Adhesive. Apply spots of adhesive about 2 inches in diameter and 1/2" thick to the back surface near each corner with additional spots 8 to 10 inches apart over the area. Exercise care to prevent adhesive from appearing on the exposed finish side. Slide unit back and forth into position, finishing in final position with exposed surface level and true.

5e. Successive units of Tile should be applied in a similar manner after inserting tongue of tile to be applied in groove of tile in place, making sure that joint at bevel is tight.

6. Installation of Plank.

6a. Conditioning Plank. Condition all plank by opening packages and allowing to stand 24 hours in room to permit adjustment to atmospheric conditions.

6b. Application of Plank.

6b (1) General. Start application of plank at corner or wall intersection. Cut off the bevel on one side of the starting plank with a square cut and butt this edge against wall or corner.

6b (2) Application by Nailing or Stapling. Nail through face of plank into framing or furring at corner, keeping nail head within 1/2 inch of edge of plank. Drive nails or staples through nailing flange using at least one nail or staple at each framing member and spaced not more than 6 inches apart over any continuous nailing surface. Insert tongue of next adjoining plank to be applied into groove of plank in place, and continue procedure to end of wall, cutting last plank to fit available space.

6b (3) Application with Adhesive. Apply spots of adhesive about 2 inches in diameter and 1/2 inch thick to the back surface near each corner with additional spots 8 to 10 inches apart over the area. Exercise care to prevent adhesive from appearing on the exposed finish side. Slide unit back and forth into position, finishing in final position with exposed surface level and true. Successive units of plank should be applied in a similar manner after inserting tongue of plank to be applied in groove of plank in place, making sure that joint at bevel is tight.

7. Protecting Surface. Care should be exercised to avoid soiling or damaging the surface of the tile or plank. Mechanics handling tile or plank should keep hands clean by washing frequently.

8. Mouldings. Corners and intersections should be finished with suitable mouldings.

2b. Nails. Use large headed nails (not less than $\frac{3}{8}$ " head) of sufficient length to pass through the insulation and penetrate the wood roof boards at least $\frac{3}{4}$ ". Nails should not pass through roof deck.

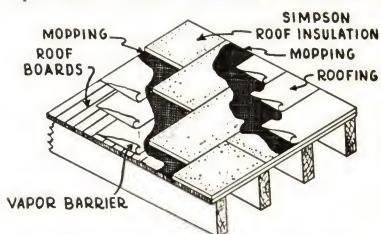
2c. Sheathing Paper Over Wood Deck. Where coal tar pitch is used, the roof deck shall be covered with resin sized sheathing paper as per paragraph 2c(1). Vapor barriers, where required, shall be applied either to wood deck or over sheathing paper as per paragraph 2c(2).

2c (1). Coal Tar Pitch Application (Wood Roof Deck). Where coal tar pitch is used, the roof deck shall be covered with resin sized sheathing paper to prevent bitumen from dripping through the wood roof deck. Paper shall be lapped 2 inches and tacked along exposed edges without wrinkles.

2c (2). Vapor Barrier (Wood Roof Deck). Over the wood roof deck or sheathing paper lay two plies (lapped half) of a standard base sheet, laying coated side down, or two plies (lapped half) of No. 15 saturated roofing felt. Nail the back edge of each sheet with tin-capped galvanized barbed roofing nails spaced 12 inches o. c. Laps shall be mopped with hot bitumen.

2d. Application of Insulation. The roof insulation shall be laid at right angles to the roof boarding. The insulation may be applied to the wood roof deck either by nailing as in paragraph 2d(1) or where a vapor barrier is required, by mopping as in paragraph 2d(2).

2d (1). Application by Nailing Insulation. Space nails 12 inches apart. Each board shall be secured in place by nailing each edge and staggered along the longitudinal center line. Drive nails below surface of roof insulation. If two layers of insulation are used, nailing shall also be through the second or top layer, using nails of sufficient length to penetrate into the wood deck at least $\frac{3}{4}$ inch.



INSULATING WOOD ROOF DECKS
(See paragraph 2d(2))

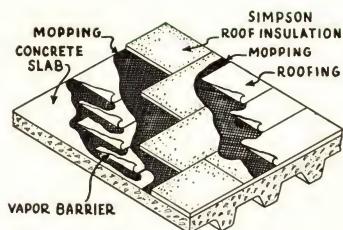
2d (2). Application by Mopping Insulation. Mop the exposed vapor barrier felt liberally with hot bitumen. Only sufficient area to provide complete embedment of each roof insulation board shall be mopped at a time. Embed each board firmly in the bituminous mopping. Where two layers of roof insulation are to be applied, mop the exposed surface of the first layer liberally with hot bitumen. Only sufficient area to provide complete embedment of each board shall be mopped at a time. Embed each board of the second layer firmly in the bituminous mopping.

2d (3). At walls, skylight curbs and under monitor skylight sash, apply a cut-off strip around edges of roof insulation (similar to paragraph 1f) and carry up at least 3 inches on vertical surface, rather than over top of roof insulation.

3. Application Over Concrete, Gypsum and Unit Tile.

3a. Roof Deck. The surface of the roof deck shall be reasonably smooth without depressions, free from dirt and loose materials, thoroughly dry and pitched to drain. Where deck is of cement, gypsum, book or similar tile construction, the joints of all tile shall be properly pointed up with cement or gypsum mortar.

3b. Priming the Deck. If coal tar pitch is used, no primer is necessary. If asphalt is used prime the deck with asphalt primer. Use a liberal coating of primer over gypsum decks.



INSULATING CONCRETE ROOF DECKS

(See paragraph 3c)

3c. Mopping the Deck. If the deck is of monolithic construction (concrete or poured gypsum), the mopping shall be continuous. If the deck is of precast units, (book tile, precast gypsum, cement tile), spot or strip mop the individual units, keeping mopping back four inches from joints so as to prevent drippage. Only sufficient area to provide complete embedment of each board shall be mopped at a time.

3d. Vapor Barrier. Over the mopping while hot, lay two plies, lapped half, of No. 15 saturated roofing felt. Over this vapor barrier apply the roof insulation in accordance with the following paragraph 3e. This vapor barrier shall be turned up on, but not cemented to, all vertical surfaces to a height of at least 3" greater than the thickness of roof insulation to be applied, and shall subsequently be mopped back over insulation. Vapor barrier shall be used in all cases under conditions specified in paragraph 1e.

3e. Application of Insulation. Over the roof deck or vapor barrier, embed each board firmly in a bituminous mopping. Where two layers of roof insulation are to be used, mop the exposed surface of the first layer liberally with hot bitumen. Only sufficient area to provide complete embedment of each board shall be mopped at a time. Embed each board of the second layer firmly in the bituminous mopping.

3f. Steep Roof Decks. On steep roof decks having a slope of 3" or more per foot, provision shall be made for additionally securing roof insulation by nailing or other mechanical fastening.

4. Application Over Steel Roof Decks.

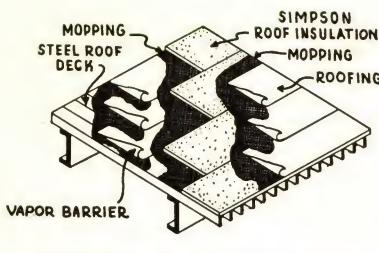
4a. Roof Deck. The roof deck shall be smooth and clean (and primed if not shop coated) and shall be securely anchored to the roof purlins; all joints shall be made rigid.

4b. Mopping the Deck. Mop the deck with hot asphalt, keeping the mopping back four inches from joints of roof deck.

4c. Felt Over Roof Deck (Under Insulation). Apply a layer of felt to roof deck in accordance with paragraph 4c(1) except where a vapor barrier is required in which case the application of the felt shall be in accordance with paragraph 4c(2). This felt shall be turned up on, but not cemented to, all vertical surfaces to a height of at least three inches greater than the thickness of the insulation to be applied, and shall subsequently be mopped back over insulation.

4c (1). No Vapor Barrier Required. Over the mopping, lay one ply of No. 15 roofing felt, the edges of the felt to be lapped two inches. Over this felt, apply roof insulation in accordance with paragraph 4d.

4c (2). Vapor Barrier. Over the mopping, while hot, lay two plies, lapped half, of No. 15 saturated felt. Over this vapor barrier apply the roof insulation in accordance with the following paragraph 4d. Vapor barrier shall be used in all cases under conditions specified in paragraph 1e.



INSULATING STEEL ROOF DECKS

(See paragraph 4d)

4d. Application of Insulation. Mop the insulation to the felt or vapor barrier with a liberal coat of hot asphalt. Only sufficient area to provide complete embedment of each board shall be mopped at

a time. Embed each board firmly in the hot asphalt. Where two layers of roof insulation are to be used, mop the exposed surface of the first layer liberally with hot asphalt. Embed each board of the second layer firmly in the mopping.

4e. Steep Roof Decks. Where the roof insulation is applied over roof decks having a slope of 3 inches or more per foot, each board shall be secured to the steel deck with three (3) bolts, metal darts or sheet metal screws, or other devices supplied by the deck manufacturer, along the top, in addition to the mopping of steep roofing bitumen.

5. Application of Roofing.

Roofing shall be applied over the roof insulation in accordance with roofing manufacturers' specifications. Use asphalt felts with asphalt roofing and tarred felts with pitch roofing.

Architect Specification No. 10

INSTRUCTIONS FOR APPLYING SIMPSON NOISEMASTER® ACOUSTICAL TILE

1. General. Installation of Simpson Noisemaster Acoustical Tile is accomplished by two principal methods; namely (1) nailing or stapling, (2) cementing. At least two men are required for most efficient work, one to erect tile and one to apply adhesive (when used) or to provide other assistance.

2. Layout. Where necessary a detailed layout drawn to scale shall be provided. In general, ceiling work shall be centered and the layout arranged so as to require a minimum amount of cutting and waste of material. The dimensions of the room will determine whether it is more desirable to center a row of tile or a joint line on the center line. This decision should be made by determining which procedure will provide a border greater than six inches in width at the walls. Center lines shall be struck as required by layout.

3. Cutting and Fitting. Cutting shall be done with a sharp knife or a fine-toothed saw. For fitting around outlets, pipes, etc., a keyhole saw may be used.

4. Nails and Adhesive. Simpson Noisemaster Acoustical Tile may be applied either to a continuous wood nailing base, or to wood furring strips using nails, or to smooth plaster, concrete or gypsum board using an approved acoustical adhesive.

4a. Nails. Where attachment is to be by nails 17 gauge insulating board or fiberboard nails (1 $\frac{3}{8}$ " or 1 $\frac{1}{2}$ " long) shall be used for $\frac{1}{2}$ " and $\frac{5}{8}$ " tile. Use similar 1 $\frac{3}{4}$ " nails for $\frac{3}{4}$ " and 1" tile.

4b. Adhesive. Where an adhesive is required, an approved acoustical cement shall be used and shall be certified by the adhesive manufacturer to provide a permanently secure bond with concrete or plaster surfaces.

5. Preparation of Base.

5a. Continuous Wood Nailing Base. Cover framing with a wood sub-base of No. 1 Common Douglas Fir, Hemlock, or equivalent, matched 25/32 inch lumber to form a continuous, level nailing base. Plywood ($\frac{5}{8}$ inch or more thick) may be substituted for the lumber if desired.

5b. Furring Strips. 1x3 or 1x4 inch furring strips shall be applied to framing members and shall be true and level. Furring shall be spaced not over 12 inches on centers.

5c. Preparation of Surfaces for Adhesive Application. Surfaces shall be tested level and shall be solid. Any loose plaster shall be

removed and the surface replastered. If the plaster is generally unsound, tile shall be applied to furring strips.

5c (1). Concrete Surfaces. shall be thoroughly dry and shall be washed with a solution consisting of one pound zinc sulphate to one gallon of water. Surface shall be allowed to dry before applying tile.

5c (2). Plaster Surfaces. On new work, Simpson Noisemaster Acoustical Tile may be applied directly to the brown coat, omitting the white or finish coat. If the plaster surface has been painted, a test sample shall be installed to determine whether or not the adhesive will bond satisfactorily to the paint, allowing at least 48 hours for the test. If the paint becomes soft or the tile becomes loose in this time, the paint shall be removed and the tile applied directly to plaster.

5c (3). Gypsum Board. Where ceiling is of frame construction and adhesive application is desired, ceiling joists shall be covered with $\frac{3}{8}$ " or $\frac{1}{2}$ " gypsum board securely nailed to joists. Surface shall be true, level and continuous.

6. Installation.

6a. Conditioning Tile. Condition all 12"x24" and 24"x24" tile by opening package 24 hours before using and standing singly in room for adjustment to atmospheric conditions.

6b. Starting of Work. On small areas work may be started in a corner and application proceed in both directions to the opposite sides, conforming in all cases to the requirements of the layout as specified in Paragraph 2. On large areas, work shall be started in the center of the room or space, placing the first tile either with edges adjoining center line or with the center of tile on the center line of the ceiling, depending on the requirements of the layout.

6c. Application by Nailing or Stapling. Secure the starting tile and one next to it with the grooved edges at right angles to the strips. Use four small headed (or collar) nails per 12"x12" tile, 6 nails per 12"x24" tile and at least 9 nails per 24"x24" tile. These nails shall be of such length as to penetrate the furring at least $\frac{1}{2}$ ". Nails shall be driven in the corner holes. Additional nails shall be driven in holes on not over 12" centers in the 12"x24" and 24"x24" tile. Set the nail heads, taking care not to mar the face of the tile or damage the edges of the holes. Instructions for application with staples are included in each carton of $\frac{1}{2}$ " Simpson Noisemaster Acoustical Tile.

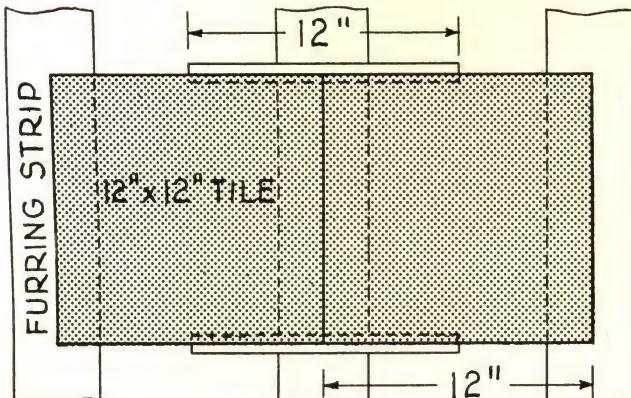


FIG. 1

6c (1). Spline-Lok System. The balance of the ceiling can be installed by the Spline-Lok System. Splines are packed at one of the sealed ends of each carton as marked. Although proper use of the Spline-Lok System of installation automatically levels the corners of the tile units and aids in holding straight lines, care is always necessary in placing the units to insure good alignment. The tile units should be butted together gently, not forced. Insert wood splines in the grooves on both sides of the tile already in place so that the splines extend from center to center of the tile units as shown in Fig. 1.

6c (2). Alternate Methods of Applying. From this point various alternate methods of applying the tile may be used as shown in Fig. 2. A convenient method is to continue the first row of tile from the two starting tiles, applying this starting row across the furring strips from wall to wall by the method shown at B, Fig. 2. Splines may also be inserted in the tile in place as shown at A, Fig. 2 and the next tile then inserted between these splines from the ends as shown at C, Fig. 2. Toe-nail through the splines and the tile into the furring strips as tile are added, setting the nail heads. Exercise care not to mar the surface or bevels of the tile. Use two nails per 12"x12" tile and three or four nails per 12"x24" driven through the splines. Where the 24"x24" tile are used drive three or four nails through the spline plus additional small-headed (or collar) nails in the holes on not over 12" centers.

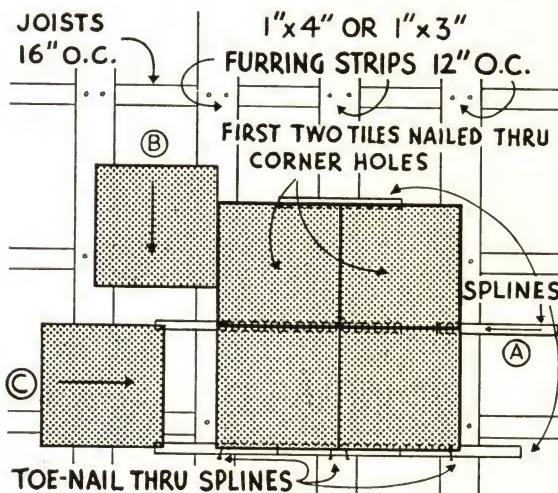


FIG. 2

6d. Border Units. After completion of the center of the panel it is generally necessary to "cut-in" the border units. This can be done with a sharp knife or a fine-toothed saw and the last course of

splines can either be broken or cut to fit. If a moulding is to be used, the border tile can fit loosely and be face nailed at the wall line in such a manner that the heads will be covered by the moulding. Otherwise it is necessary to scribe the tile to the wall and the nailing must be concealed.

6e. Application with Adhesive. Start the work as close to the center of the room as possible and work out in all directions to insure even borders. See paragraph 2.

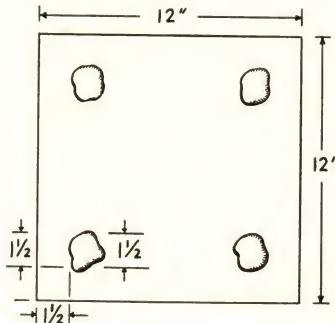


FIG. 3

6e (1). Amount of Adhesive. Apply the adhesive to the 12"x12" tile in spots near each corner using a putty knife or a small trowel. Each spot should be approximately 1 1/2" or 2" in diameter and about 1/2" thick. The outer edges of the spots should be about 1 1/2" in from the edges of the tile as shown in Fig. 3. Never spread the adhesive over the entire back of the tile. For 12"x24" tile, use 8 spots of adhesive per tile, one in each corner and the others evenly spaced over the tile. For 24"x24" tile, use 16 spots of adhesive per tile, one in each corner and the others evenly spaced over the tile.

Care must be used in applying the adhesive to keep the spots as uniform in size (particularly thickness) as possible. If this is done and uniform pressure is used when sliding the tile into place, it will aid greatly in keeping the work level. This is very important to the final appearance of the installation.

6e (2). Sliding Tile in Place. Place the first tile with great care. Hold the units (adhesive side up) with outspread fingers on the face, and thumbs over the near edge. Make contact between the adhesive spots and the backing when the edge of the tile is 2 or 3 inches from its final position. Slide the tile up to the line, back it away an inch or two and slide up again using a firm, uniform pressure. It is very important to use this sliding motion—never push the tile straight up into position as a failure of the bond is almost certain to result.

6e (3). Additional Anchorage. It is advisable to use two or more nails through the corner holes of each of the first few tile to insure against their being pushed out of line when additional tile are slid up to them. If the backing is concrete and this procedure cannot be followed, extra care must be used in placing the first few tile.

6e (4). Use of Splines with Adhesive. Although the splines may be used to aid in leveling a cemented job, extreme care must be used to avoid breaking the adhesive bond on the tile already placed. In general, such use of the splines is not recommended unless the workmen are thoroughly experienced in the application of acoustical tile by adhesive methods.

6e (5). Border Units. When the center or "field" of the panel has been completed, the border units may be cut to fit and placed in the same manner as the field tile. Scribe the border units to the wall unless a moulding is to be used.

7. Protecting Surface. Care should be exercised to avoid soiling or damaging the surface of the tile. Mechanics handling tile should keep hands clean by washing frequently. Particular care should be used where adhesive is used to keep adhesive off surface of tile.

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